Intelligent Fixtures



Intelligent fixtures have been around since the late 1980's but have been recorded to be patented in early 1900's. Unlike Generic fixtures that require one channel for power - Intelligent fixtures require more channels for attributes such as pan+tilt/colour/gobo. The channels are commonly controlled using DMX protocol from a lighting console. A widely used intelligent fixture called the "Mac 250" can have up to 18 channels of DMX control. Intelligent fixtures generally have 3 main connectors on them - DMX IN - DMX OUT - POWER IN. Of course all fixtures are different and power daisy chaining - This is usually accomplished by a <u>POWERCON</u> In and POWERCON out, As they are the industry standard power connector. Made by <u>Neutirk</u>, the blue power connector twist locks into place not allowing for it to be pulled out; Which is a benefit over IEC.

"Moving Head" fixtures are the most common nowadays and are used in nearly every application you see lighting fixtures in. Instead of having one generic light covering one area on the stage, A moving fixture can move the light into different positions so can be more effective both visually and in a cost sense. The production company no long has to have 50+ fixtures to cover the stage fully, Instead it can use 8 moving fixtures to get the exact same coverage, which is massively beneficial, especially when out on tour. Intelligent fixtures are more expensive than generic fixtures as they have lots of different functions such as: colour mixing and/or static colour wheels, pan and tilt movements, gobo's, zoom functions, frost and prism effects. However they can add a lot to the show and often require a smaller crew to install again cutting the assosiated costs. Here comes the big but; they often require more maintenace and so a specialist moving lights technician is often required to go out on tour with moving lights.

LED Fixtures

With the advent of new technologies the entertainment industry is moving away from halogen discharge lamps and is starting to favour newer LED technology. Initially LED fixtures were very expensive and so could only be used by very large scale productions, though now they are relatively affordable and so are being used on even the smallest events. One of the most simplistic forms of LED fixture is the RGB par can, where there are simply red, green and blue LED's that mix using the RGB colour mixing theorem, similar to CMY. There are also moving lights that work in a very similar way, such as the GLP Impression. The next step for LED's was the creation of the tri LED which combined RGB led's into one single diode. This meant that more diodes could be mounted and so fixtures became brighter. As RGB LED's don't produce a very nice white people started adding white LED's and so the quad LED was born. There are now fixtures using Hex LED's with; Red, Green, Blue, White, Amber and UV LED's on-board.

There has also been a drive in incorporating LED's into profile, beam and wash moving heads recently with Cree LED's giving a very bright output. There are many benefits to using LED's including their longer lifespan and the fact they stay much cooler than standard halogen discharge lamps. This is far preferable, especially in smaller venues where it can get incredibly hot. This ever developing technology will inevitably play a very big part in the future if this industry and with new ways to apply them being developed very regularly it should be something to embrace.

DID YOU KNOW - LED bulbs are more powerful than halogen lamps. People often think of LED fixtures being dim and "not bright enough". However - This isn't the case. For example a Par 64 Halogen (1000 watt) Vs a Par 64 LED (3 x 7 watt) is a totally unfair comparison as the halogen has the more watts. If the LED and Halogen both had 1000 watt bulbs - The LED would be extremely brighter.

Designed and Written By The Technician's Toolbox

Protected by UK Intellectual Property law - Copyright The Technician's Toolbox 2015 Web: www.thetechnicianstoolbox.co.uk Social: www.facebook.com/technicianstoolbox I www.twitter.com/techybox